Ocean Exploration Initiative National Ocean Service

Reducing the knowledge gap of the undersea by 50% over the next 10 years

Drafted: Craig McLean, NOS/NMS
(301)713-3125, x-151

Exploring and Discovering Submerged Heritage Resources

Introduction

The maritime historical record of the United States is largely underwater and awaiting discovery and documentation. A brief but invaluable inventory of that record has been preserved by public and private museums and educational institutions,[1] though this inventory pales in comparison with the estimated 50,000 shipwrecks in US waters[2]. Recent successful expeditions to locate and explore the RMS Titanic, the German battleship Bismark, and other sites have demonstrated the continuing development of remarkable deep sea technology, and that public interest in these subjects is very high.

As undersea exploration technology has developed, a recovery range has similarly evolved to the point where virtually anything sunk or lost at sea can now be found and explored, regardless of depth. In circumstances involving great opportunities for wealth, private investors have positioned themselves to exploit shipwrecks for the valuables contained within, rather than the significant history that abounds at these sites. After a commercial location and excavation of a shipwreck comes announcements of great wealth for the participants and chagrin for having failed to protect the historical integrity of the site. Our maritime heritage can only be protected by knowing the extent of these resources at the pre-exploitation stage. Private investors seek vessels of great wealth, rather than vessels of significant maritime history. Only a public effort can support the collective

The US territorial waters and EEZ contain tens of thousands of shipwrecks. Various government agencies, museums, scholars, and private entities have valuable information on many of these vessels. The public has an interest in their national history. A national Shipwreck Survey and Inventory will locate, quantify, and characterize the submerged maritime heritage of our Nation and beyond.

Objective: *To learn the location of US shipwrecks as well as we know the moon=s craters*.

This initiative pushes the development and application of deep ocean technology to survey and map the location and characteristics of shipwrecks in US waters and beyond. The Shipwreck Survey and Inventory will produce a national data base that locates, describes, and possibly identifies sunken vessels. From this data base, managers will know what resources exist, determine necessary protections, and determine the appropriateness of commercial opportunities for exploitation and recovery.

Scope of Work:

1. **Consolidate existing data bases** regarding known shipwreck locations or suspected losses. Navy, NOAA, USGS, USCG, National Archives, Library of Congress, States, Universities, pipeline and telecommunications survey companies, and others have accumulated significant data bases on shipwrecks. These need to be consolidated and vetted.
   Time: Years 1 and 2.
2: **Develop density maps** of shipwrecks based on known locations of shipwreck sites and existing sonar records.
   Time: Years 1 and 2.
3. **Develop reference maps** of suspected sinkings of losses based on written historical records.
   Time: Years 1 and 2.
4. Coordinate public and private **assets and technology** needs. Fill these needs with gear development technology investments and grants.

---

[1] *USS Constitution, USS Olympia, SS Peking,* Nantucket Light Ship, *USS Intrepid.*

[2] Turning to the Sea: America=s Ocean Future. 1999.

Time: Years 1, 2, and 3.

5. Conduct **at sea survey** with multi-beam technology and side scan sonar to cover areas of high density shipwrecks (approaches to colonial or traditional ports) and all National Marine Sanctuaries. (Area specific surveys.) Conduct at sea surveys with multi-beam and side scan technologies to focus on specific areas of suspected sites for historically important shipwrecks based on the written record. (Site specific surveys.) Time: Years 1, 2, 3 and 4.
6. Conduct exploratory **site visits** with diver, submersible, ROV, AUV, portable habitat units, or other technologies developed under this initiative. Archaeologists perform assessments and survey of the historical value of the sites visited. Time: Years 2, 3, and 4.
7. Develop **data archive** from explorations and survey and establish public data base relating location with character profile of shipwreck, historical value, and records of preliminary exploration. Future expeditions would add to the data base. Resource managers would use assessments from this data base for decisions on future management needs. Time: Years 3, 4, and 5. (Partners could continue this effort thereafter.)

Benefits:

1. Academic and public knowledge will be enriched.

2. Public resource management decisions will be based on better information.

3. Safe navigation will be enhanced with a thorough knowledge of submerged obstructions beyond the depth of a vessel=s keel as the fishing industry works deeper, scientific instrumentation deployment becomes more comprehensive.

4. National environmental security will be enhanced by knowing the location, status, and nature of risk posed by sunken oil-fired ships (WWII generation ships may be approaching the exhaustion of their tank metals) and munitions aboard (WWII actions resulted in many losses of ships, submarines, and aircraft).

5. Deep ocean exploration and discovery has co-evolved with the sophistication of the engineering technologies. Investments in ocean discovery will produce the necessary technologies driving private sector investments and profits for ocean science, and ocean technology companies.

6. Commercial exploitation can be targeted and guided to make compatible the goals of historical recovery and preservation, and the goal of commercial enterprise. Protection should not be a frustrated afterthought but a planned activity from a thorough knowledge base. Incorporating historical preservation goals in commercial salvage operations through judicial pathways has been a demonstrated successfully as in the Columbus America Discovery Group salvage of the *SS Central America*. As the US contemplates the draft UNESCO Convention on the Protection of the Underwater Cultural Heritage, a national position can be developed based upon what we know and need to protect, rather than what we feel we need to protect because we do not know.

Partnerships:

NOAA possesses the ability to conduct much of this work, but not at the scale or time envisioned by this initiative. Partnerships with private industry, universities, other government agencies, educational media, museums and aquaria will be necessary to conduct the scope of work, and will last long beyond the exercise of the field operations. Examples of partnerships:

Universities: Scholars and students will provide the archival research and literature reviews to develop the initial data bases for determining site locations and survey target densities. Students and credentialed professionals will provide the expertise in marine archaeology, site identification, and assessments of the historical worth of the sites.

Private Industry: Survey companies can provide ship time in excess of NOAA=s fleet capacities. Technology companies will provide innovative survey technologies, mapping programs, charting software, sonars, multi-beam systems, ROVs and other technologies to locate explore, and record the survey areas and sites discovered.

Ocean Explorers and Archaeologists: Numerous individuals and institutions have demonstrated their remarkable success in such projects as this, and their participation would be critical in the success of this endeavor.

These would include Dr. Robert Ballard, Dr. Gordon Watts, the Institute for Exploration, Harbor Branch Oceanographic Institution, Woods Hole Oceanographic Institution, and numerous others. The contributions range from vessels, ROVs, search and survey equipment, and the expertise in identifying the contents of sites discovered.

Government Agencies: The states would benefit from the application of technology to their coastal waters, in which lie most of the unknown sites and for which they lack the knowledge of their existence or the ability to locate. Many states have shipwreck inventories, ranging from preliminary efforts to refined assessments. Navy continues to be an active partner in applying diving technologies for training and readiness on the Monitor National Marine Sanctuary, and has a rich body of data, plus technologies for the location and survey of shipwrecks. USGS has survey data of value. The National Archives house a rich body of historical information ranging from reports of the early coastal lifeboat stations to the Naval War Diaries of WWII..

Museums: Existing partnerships can be strengthened and new ones established along the model of the Newport News Maritime Museum. This museum has accepted custody of the recovered portions of the *USS Monitor* and assumes conservatory responsibilities and public display for the same. Museums will become the repository of historical artifacts along a regional or thematic focus. Other examples include the Mystic Aquarium, Mystic Seaport Museum, San Francisco Maritime Museum, and the South Street Seaport Museum.

Educational Media: The public appetite for this subject will be rewarded by participation of such educational media as the National Geographic Society, Discovery Channel, History Channel, JASON Foundation for Education (an existing NOAA partner), and provide opportunities for public education long after the completion of the discovery expeditions.

Budget:

Year: / Activity		1	2	3	4	5	
Review Data Bases		0.3	0.3				0.6
Density Maps		0.3	0.3				0.6
Reference Maps	0.3	0.3	0.3			0.9	
Asset/Technology		0.5	1.5	0.7			2.7
Sea Surveys[3]		0.5	2.0	3.0	2.0		7.5
Site Surveys			1.5	2.0	3.0		6.5
Data Archive[4]				0.5	0.5	0.5	1.5
		1.9	5.9	6.5	5.5	0.5	**20.3M**

[3]Sea survey activity may overlap with requirements stated elsewhere in the Initiative, thereby reducing the actual cost.

[4]Archiving will continue after direct funding expires. Partnerships and matching funds can extend this activity.